



- Power Stations
- Boiler Plants
- Hot Gas Generators
- Firing Systems
- Heat Recovery
- Service
- Customised Casting

**BIOMASS
and WASTE
to ENERGY**

Virtual Meeting AHK Cambodia

RICHARD KABLITZ GMBH
Intelligent technologies for energy recovery



Corporate Introduction - History

- 1901** R. Kablitz invents the fined cast iron gilled plates. Foundation of the company by R. Kablitz in Riga, Latvia
- 1948** Moving of the company to Lauda-Königshofen, Germany
- 1990** Begin of EPC activities for complete biomass and waste to energy plants
- 2015** Engitec Technologies SpA buys 80% of the shares





MULTI-FUEL

1. Biomass

Virgin Wood Chip | EN Plus A1 Pellets | EN Plus A2 Pellets
| EN B Pellets | Bark | Saw dust | Sanding dust | Wood Granulate

2. Agriwaste

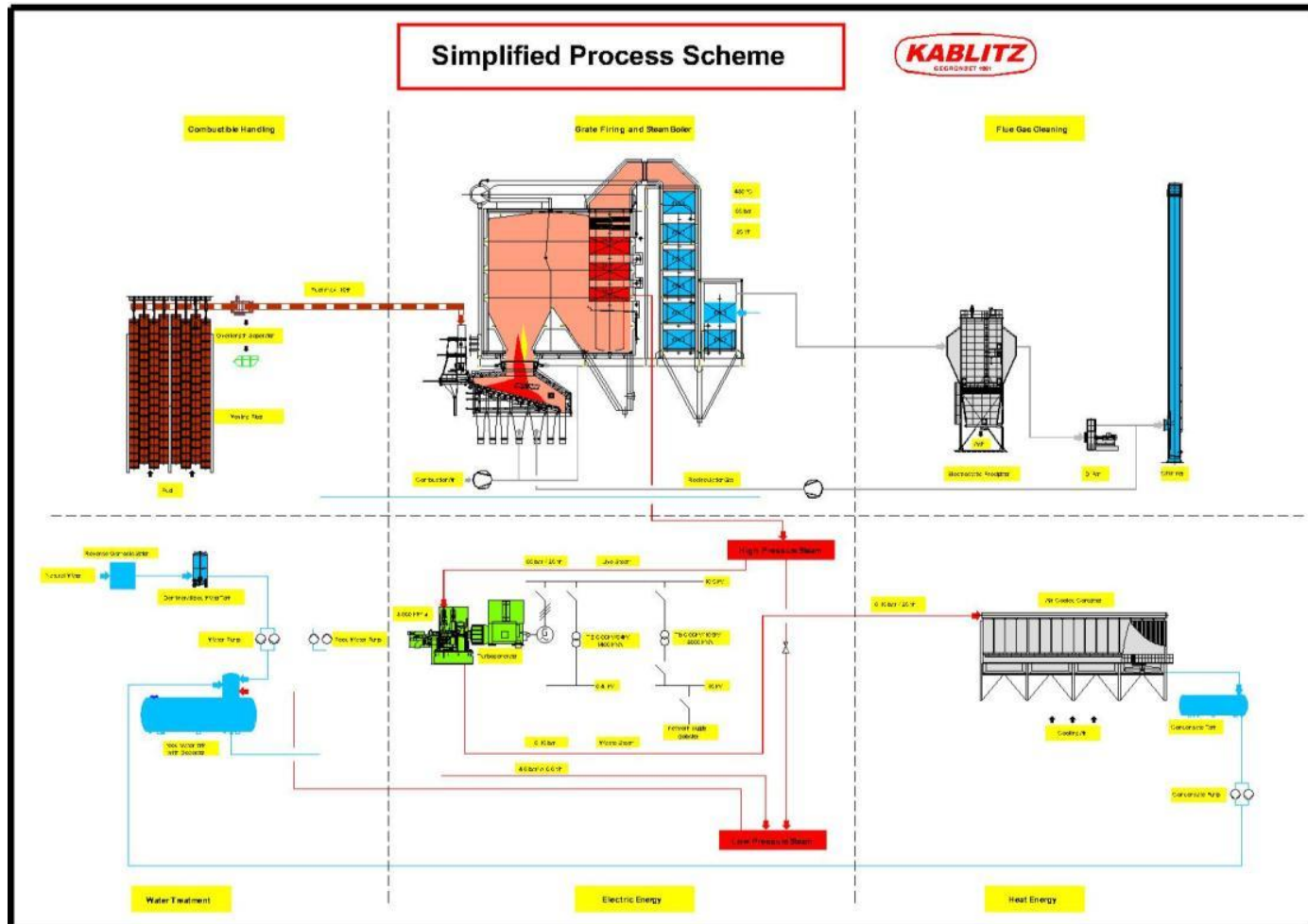
Palm Kernel Shells (PKS) | Olive Cake | Rice Husk Pellets
| Rice Husk Briquettes | Chicken litter

3. Waste to Energy

RDF (Refuse Derived Fuel) | SRF (Solid Recoverable Fuel) |
A-B-C Grade Recycled Wood | C Grade Recycled Wood | Sludge



Scope of Supply

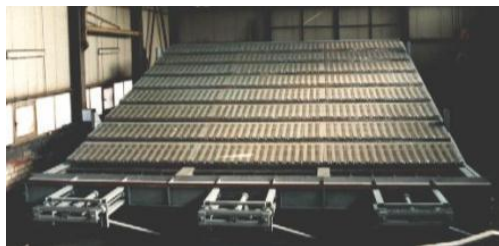




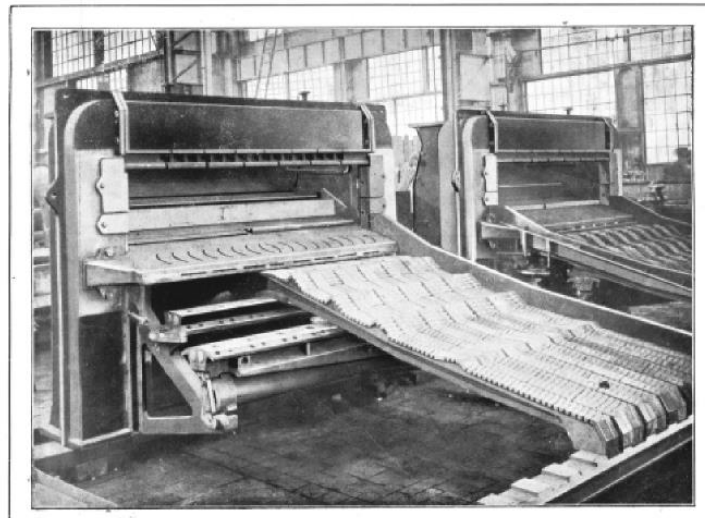
Firing Systems (Excerpt)

Mechanische
UNIVERSAL-HOCHLEISTUNGS-FEUERUNG
Patent KABLITZ

für beliebige Gas- und Förderkohle, Anthrazite, Koks und deren Abfälle,
für Schieferkohle, Braunkohle, Torf, Holzabfälle, Lokomotivlöschs, Gerberlohe usw.



Type 116 SW/SL



Universal – High-Performance – Grate



Type 415

Type 400

Type 422/415





Multifuel Combustion:

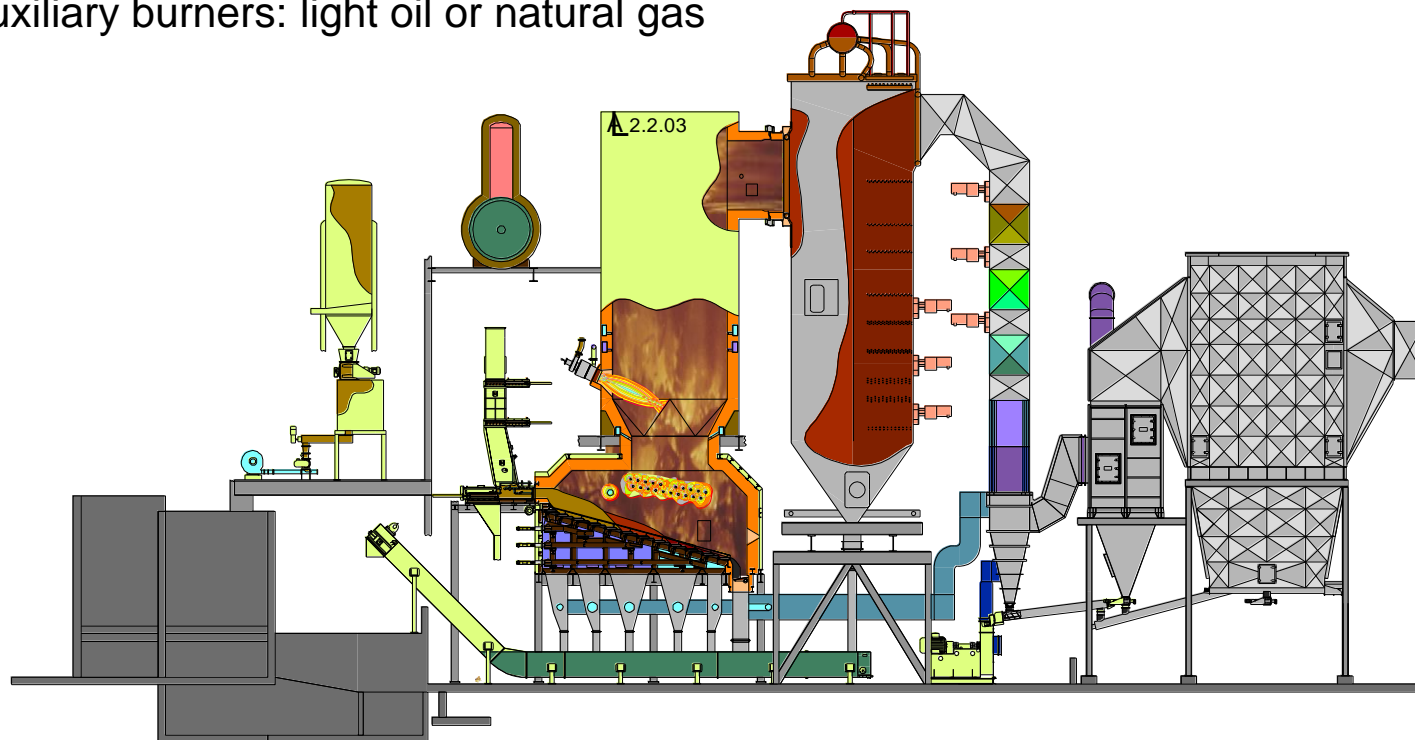
It is possible to combine different combustion systems in a plant:

Grate: wood chips and other large fuel parts

Dust / granulate burner: fine particles < 3 mm

Auxiliary burners: light oil or natural gas

Reference Project:
Rosenheim





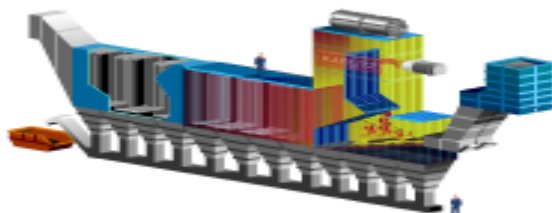
Biomass Steam Boiler Plants

Different boiler types:

Water tube boilers

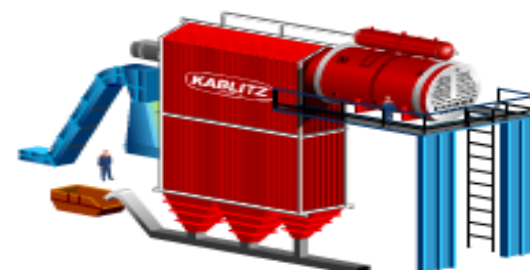


Vertical boiler



Horizontal boiler
(tail end boiler)

Smoke tube boilers





Biomass Thermal Oil Heater Plants

Thermal Oil Heaters

Different boiler types:



Heaters in membrane wall design



Thermal oil heaters with meander convection part



2-pass/ 3-pass thermal oil heaters



Biomass Steam Boiler Plants

Water Tube Boilers

Reference Project:
Chilton



Location:	United Kingdom
Fuel:	Wood Chips
Fuel Bandwidth:	4,4 – 4,8 kWh/kg
Installed Combustion Capacity:	Reciprocating Grate: 53,6 MW
Electric Power:	17,6 MW
Live Steam Mass Flow:	67,0 t/h
Live Steam Pressure:	86 bar(a)
Live Steam Temperature:	495°C
Feed Water Temperature:	190°C
Combustion Air Preheating:	150°C
Year of Commissioning:	2012



Waste-to-Energy steam boilers

Horizontal water tube steam boiler



Project:	Wiesbaden
Location:	Germany
Electrical output:	10,0 MW
Heat output:	24,0 MW
Steam mass flow:	49 t/h
Steam pressure:	42 bar(a)
Steam temperature:	425 °C
Installed combustion capacity:	Reciprocating grate: 38,4 MW
Fuel:	Wood waste grade 1 to 4
Year of commissioning:	2013



Biomass steam boilers

Vertical water tube steam boiler



Project:	Pemuco
Location:	Chile
Electrical output:	12,1 MW
Heat output:	60 t/h at 1,2 bar(g)
Steam mass flow:	60 t/h
Steam pressure:	76 bar(a)
Steam temperature:	485 °C
Installed combustion capacity:	Reciprocating grate: 55,0 MW
Fuel:	Forest residues, eucalyptus bark, coal
Year of commissioning:	2014



Biomass CHP & Energy centers

ORC plant 5 MWe



Project: Volos

Location:	Greece
Fuel:	Olive and cotton waste, sunflower husk
LHV:	3,2 - 4,9 kWh/kg
Installed combustion capacity:	Reciprocating grate: 21 MW
Granulate nozzle:	10 MW
Thermal oil capacity:	18,8 MW
TO supply temp.:	315°C
TO return temp.:	250°C
Commissioning:	2019

https://www.youtube.com/watch?v=RM41uM74_iY



Examples:





Heat Exchangers



Glass tube heat exchanger



Quality Management 50 years ago



Module of a cast iron gilled plate heat exchanger



Assembly of glass tubes



Assembly of gilled plates



Spare Parts

Our own Foundry





Customised & Own Casting

**German Quality from our foundry
in Lauda.**

We cast in different quality:

- Cast iron from chrome RKG-X,
equal to material no. 1.4777,
GX 130 Cr Si29, DIN 17465
- Grey cast iron, acc. RK EN-GJL resp.
EN-GJL-100 bis EN-GJL-200, DIN EN 1561
- Heat resistant special cast iron



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Thank You

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